So far, we have received only a few letters respecting the matter of publishing the portraits of our contributors. We shall be pleased to hear still furthur, and those who favor the plan may send their photos to us at once.

The paper by the late Ansel N. Kellogg, of Chicago, published in this issue was sent to the MONTHLY at the suggestion of Professor Irving Stringham, of the University of California. Professor Stringham says, "They [the formulæ] take us back to methods that were in vogue at the beginning of the century. But they are much superior in accuracy and rapidity of convergence to any I have found in the older books. They will be of some interest, I think, to mathematical readers.

Their author, the late Ansel N. Kellogg, of Chicago, was for a number of years prominent in newspaper and business circles throughout the country. Though a very busy man, he found time for mathematical meditation, and that he could think efficiently in this domain the paper presented sufficiently attests."

As we are very anxious to increase the subscription to the MONTHLY we make the following liberal offers :

1. To any person sending us 75 new subscribers at our regular price, we will make a present of a handsome set of the *Century Dictionary and Encyclopedia*.
2. To any person sending us 50 new subscribers at our regular price, we will make a present of a $100 *Acme* or *Monarch Bicycle*.
3. To any person sending us 20 new subscribers at our regular price, we will make a present of the *Standard American Encyclopedia* [see advertisement on cover.]
4. To any person sending us 15 new subscribers at our regular price, we will make a present of a copy, in one volume, of the *Standard Dictionary* (Funk and Wagnalls').

In all cases the money must accompany the list of names sent in.

BOOKS AND PERIODICALS.

Determinants. Designed for High Schools, and Lower Classes of Colleges and Universities. By J. M. Taylor, M. S., Professor of Mathematics and Astronomy in the University of Washington and Director of the Observatory. 8vo. Cloth, 48 pages. Chicago : Werner School Book Company.

In this little book, Professor Taylor has set forth in a very clear and concise manner the fundamental principles of Determinants. We feel sure that this little work will go far towards popularizing the subject and bringing it within the easy comprehension of the students of our best High Schools. B. F. F.

Elements of Theoretical Physics. By Dr. C. Christiansen, Professor of Physics in the University of Copenhagen. Translated into English by W. F. Magie, Ph. D., Professor of Physics in Princeton University. Large 8vo. Cloth, 338 pages. Price, $3.25. New York : The Macmillan Co.

This work, at first sight, presents a formidable appearance in mathematical notation and formulæ, but by beginning with the introduction and carefully reading through it, the reader is led on to overcome difficulties by a force which can only be accounted for by the admirable, clear, and interesting treatment of the subjects. It presents the fundamental principles of Theoretical Physics and developes them so far as to bring the reader in touch with much of the new work that is now being done in that subject. It is not exhaustive in every respect, but is stimulating and informing and furnishes a view of the whole field, which will facilitate the reader's subsequent progress in special parts of it. The book is printed on good paper and is well bound. Its appearance could have been somewhat improved by not printing it so compactly. B. F. F.

Principles of Mechanism. A treatise on the Modification of Motion by Means of the Elementary Combinations of Mechanism or of the Parts of Machines. For use in College Classes, by Mechanical Engineers, etc., etc. By Stillman W. Robinson, C. E., D. Sc., till recently Professor of Mechanical Engineering in the Ohio State University. First Edition, first thousand. Large 8vo. Cloth, 309 pages. Price, $3.00. New York : John Wiley & Sons.

In this volume we have a thoroughly scientific treatise on mechanical movements. They are treated from the standpoint of both theory and practice. The work embodies the substance of lectures given by the author during the past twenty-seven years.

The work is largely addressed to those who are more conversant with the drawing board than with mathematics, so that the subject has been treated more from the standpoint of graphics than of pure analysis. This feature will popularize the work. The drawings, which are very suggestive, beautiful, and accurate, are very numerous. There are numerous reproductions from actual models. B. F. F.

(1) *Macaulay's Essay on Milton;* (2) *Shakespeare's Midsummer Night's Dream;* (3) *Scott's Woodstock;* (4) *Milton's L'Allegro, Il Penseroso, Comus, Lycidas;* (5) *"George Eliot's" Silas Marner.* Price of (1), (2), and (4) 20 cents, of (3) 60 cents, and of (5) 30 cents. American Book Company, New York, Cincinnati, and Chicago.

We notice collectively this group of texts from the "Eclectic English Classics" series, published by the American Book Company. The texts are well and carefully edited, with introductions and explanatory notes. (1), (3), and (5) have frontispiece portraits of John Milton, Oliver Cromwell, and "George Eliot", respectively. These books are clearly printed, the notes are concise and sufficient, and the introductions interesting and valuable. There is so much advantage in extending the use of these gems of English Literature in our schools, that a debt of gratitude is due the publishers for providing them in such serviceable shape and at a minimum cost. J. M. C.

An Elementary Treatise on Plane Trigonometry. By E. W. Hobson, Sc. D., and C. M. Jessop, M. A. 299 pages. Price, $1.25. Cambridge University Press. New York : Macmillan & Co.

This treatise on trigonometry is a work of recognized merit. The chapter on solution of trigonometrical equations is particularly full and valuable. The plan of the work is good and the execution thorough and satisfactory. J. M. C.

The Arena. An Illustrated Monthly Magazine. Edited by John Clark Redpath and Helen H. Gardner. Price, $3.00 per year in advance. Single numbers, 25 cents. Boston : The Arena Company.

The March number of *The Arena* is the initial issue of the magazine under the new management and editorship. The Company has been reorganized on a solid financial basis, and the current number of the magazine comes in a form and substance well calculated to win public favor, and following its well established policy of liberalism and reform.

The number opens with the first of a series of important contributions on the development and reform of city government in the United States. This first article is by the Hon. Josiah Quincy, Mayor of Boston, who therein expresses himself as in favor of the municipal ownership, though not necessarily the municipal operation, of public services, such as gas and electric lighting and street railways. An excellent portrait of Mayor Quincy forms the frontispiece to the number. The article by Professor LeConte, of the University of California, on "The Relation of Biology to Philosophy," is a searching adverse criticism of the seventh chapter of Professor Watson's recent work on "Comte, Mill, and Spencer;" but it is also very much more, being a thoroughly up-to-date exposition of the general theory of organic evolution, and its relation to religion as well as philosophy.

B. F. F.

The Review of Reviews. An International Illustrated Monthly Magazine. Edited by Dr. Albert Shaw. Price, $2.50 per year in advance. Single numbers, 25 cents. The Review of Reviews Co., 13 Astor Place, New York City.

The editor of the *Review of Reviews* comments in the March number on the Spanish program of reforms in Cuba, the United States Senate's attitude toward the arbitration treaty with England, the immigration bill, the proposed international monetary conference, President-elect McKinley's cabinet selections, the recent Senatorial elections, the New York Trust investigation, the famine situation in India, the affair of the Greeks in Crete, the foreign policy of Russia, the position of England, France, and the other great powers, and many other matters of current interest.

B. F. F.

Errata in January Number.

On page 16, 2nd line of problem 55, for "grouhd" read *ground.*
On page 17, in the figure, join CF and CP.
On page 17, 1st line of solution II, for "$AMFHC$" read $AMFHC'$.
On page 20, line 1, complete the parenthesis after last term of equation.
On page 20, line 8, place — between two terms enclosed by brackets.
On page 20, line 14, for "$\frac{2}{3}\frac{1}{2}\pi^2a^4$" read $\frac{2}{3}\frac{1}{2}\pi^2a^4$.
On page 21, line 2, for "$\frac{1}{3}^6a^2$" read $\frac{1}{3}^6a^3$.
On page 21, line 8, read $d\rho=2a\cos^2\theta+a\cos\theta-a=0$.
On page 25, line 18, for "100" read 100th.
On page 25, line 25, read "add and subtract $B^2/4$, etc."
On page 26, line 15, for "$(2mp)^2$" read $(2mn)^2$.
On page 27, line 3, for "is" read in.
On page 28, line 15, for "$x++(x1)$" read $x+(x+1)$.
On page 28, line 20, for "2392" read 1393.
On page 32, lines 6, 11, and 12, read l where 1 occurs.